

WHAT IS CLAIMED IS:

1 1. A battery system for providing power to a device, comprising:
2 a battery compartment which can accommodate at least one rechargeable
3 battery pack interchangeably with at-least one non-rechargeable battery; and
4 a rechargeable battery pack including:
5 at least one rechargeable battery;
6 a recharging module coupled to the rechargeable battery for charging the at
7 least one rechargeable battery;
8 a detection module in communication with the device to detect when the
9 rechargeable battery pack is inserted into the battery compartment.

1 2. The battery system of claim 1, wherein the rechargeable battery pack
2 further comprises:
3 a metering module for tracking the amount of battery power in the at least one
4 rechargeable battery.

1 3. The battery system of claim 1, wherein the device is coupled to an
2 external power supply to charge the at least one rechargeable battery through the recharging
3 module.

1 4. The battery system of claim 3, wherein the external power supply is
2 provided by an AC source.

1 5. The battery system of claim 3, wherein the external power supply is
2 provided by a host bus of the device.

1 6. The battery system of claim 3, wherein the at least one rechargeable
2 battery provides power to the device only when the device is not coupled to the external
3 power supply.

1 7. The battery system of claim 1, wherein the detection module comprises
2 at least one connector pad which makes contact with a corresponding at least one connector
3 pad in the battery compartment, and wherein contact between the at least one connector pad
4 and the corresponding at least one connector pad indicates that the rechargeable battery pack
5 has been inserted into the device.

1 8. The battery system of claim 1, wherein the battery compartment
2 comprises:

3 a first battery contact pad for establishing contact with a first terminal of either
4 the at least one rechargeable battery or the at least one non-rechargeable battery;

5 a second battery contact pad for establishing contact with a second terminal of
6 either the at least one rechargeable battery or the at least one non-rechargeable battery;

7 a detection contact pad for establishing contact with a detection contact pad on
8 the rechargeable battery pack, wherein such contact indicates that a rechargeable battery pack
9 has been inserted into the battery compartment.

1 9. The battery system of claim 1, wherein the device is a camera.

1 10. A battery compartment for accommodating at least one rechargeable
2 battery pack interchangeably with at least one non-rechargeable battery, the at least one
3 rechargeable battery pack including at least one rechargeable battery, the battery
4 compartment comprising:

5 a first battery contact pad for establishing contact with a first terminal of either
6 the at least one rechargeable battery or the at least one non-rechargeable battery;

7 a second battery contact pad for establishing contact with a second terminal of
8 either the at least one rechargeable battery or the at least one non-rechargeable battery;

9 a detection contact pad for establishing contact with a detection contact pad on
10 the rechargeable battery pack, wherein such contact indicates that a rechargeable battery pack
11 has been inserted into the battery compartment.

1 11. A rechargeable battery pack for providing power to a device, wherein
2 the rechargeable battery pack can be used in the device interchangeably with the at least one
3 non-rechargeable battery, the rechargeable battery pack comprising:

4 at least one rechargeable battery;

5 a recharging module coupled to the rechargeable battery for charging the at
6 least one rechargeable battery;

7 a detection module in communication with the device to detect when the
8 rechargeable battery pack is inserted into the device.

1 12. The rechargeable battery pack of claim 11, further comprising a
2 metering module for tracking the amount of battery power in the at least one rechargeable
3 battery.

1 13. The rechargeable battery pack of claim 11, wherein the device is
2 coupled to an external power supply to charge the at least one rechargeable battery through
3 the recharging module.

1 14. The rechargeable battery pack of claim 13, wherein the external power
2 supply is provided by an AC source.

1 15. The rechargeable battery pack of claim 13, wherein the external power
2 supply is provided by a host bus of the device.

1 16. The rechargeable battery pack of claim 13, wherein the at least one
2 rechargeable battery provides power to the device only when the device is not coupled to the
3 external power supply.

1 17. The rechargeable battery pack of claim 11, wherein the detection
2 module comprises at least one connector pad which makes contact with a corresponding at
3 least one connector pad in a battery compartment in the device, and wherein contact between
4 the at least one connector pad and the corresponding at least one connector pad indicates that
5 the rechargeable battery pack has been inserted into the device.

1 18. The rechargeable battery pack of claim 11, wherein the device is a
2 camera.

1 19. A method of using at least one rechargeable battery pack
2 interchangeably with at least one non-rechargeable battery to provide power to a device, the
3 method comprising:

4 providing a battery compartment in the device which can accommodate the

5 rechargeable battery pack interchangeably with the at least one non-rechargeable battery; and

6 detecting when the rechargeable battery pack is inserted into the battery

7 compartment.

1 20. The method of claim 19, wherein the rechargeable battery pack
2 includes at least one rechargeable battery.

1 21. The method of claim 20, further comprising:
2 charging the at least one rechargeable battery when the device is connected to
3 an external power source.

1 22. The method of claim 21, wherein the external power source is provided
2 by an AC source.

1 23. The method of claim 21, wherein the external power source is provided
2 by a host bus of the device.

1 24. The method of claim 19, further comprising:
2 metering the battery power in the at least one rechargeable battery.